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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/080,104	02/21/2002	Kaoru Koike	09792909-5344	1692
26263	7590	04/20/2006		
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			EXAMINER	
			ERDEM, FAZLI	
			ART UNIT	PAPER NUMBER
			2826	

DATE MAILED: 04/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/080,104

Applicant(s)

KOIKE ET AL.

Examiner

Fazli Erdem

Art Unit

2826

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 March 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 12, 14-37, 51-57, 61-66, 68-82 and 84-86 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 23-37, 51-57, 61-66, 68-82 and 84-86 is/are allowed.
- 6) ☒ Claim(s) 12 and 14-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Allowable Subject Matter*

1. Claims 23-37, 51-57, 61-66 and 68-82 and 84-86 allowed.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 12 and 14-22 rejected under 35 U.S.C. 103(a) as being unpatentable over Yahiro et al. (6,204,509) in view of Mitome et al. (5,695,897).

Regarding Claim 12, Yahiro et al. disclose a projection-microlithography apparatus, masks, and related method incorporating reticle distortion measurement and correction where in figs. 1(a) – 1(f), it is disclosed a plurality of pattern formation regions 50 in which mask circuit patterns are to be formed, and a supporting region 51 in which an y mask circuit is not to be formed where the supporting region being provided for holding plurality of pattern formation regions while separating plurality of pattern formation regions from each other where the supporting region has first alignment marks 53 used at the time of alignment of a mask made from the mask making member for forming the mask circuit pattern and second alignment patterns 301 used at the time of alignment of a substrate to be exposed for forming circuit patterns. Furthermore, Yahiro et al. disclose that first and second alignment marks are formed on an electron scatterer formed on a membrane by selectively removing electron scatterer and first and second

Art Unit: 2826

alignment marks formed on a mask board. Yahiro et al. fail to disclose that first and second alignment marks formed one at a time and the required burying of the contact hole. However, Mitome et al. disclose an alignment method and semiconductor exposure method where in claims 1 and 2, the required one at a time alignment mark method is disclosed.

It would have been obvious to one of having ordinary skill in the art at the time the invention was made to include the required one at a time alignment mark method in Yahiro et al. as taught by Mitome et al. in order to have a mask making member with increased reliability.

Regarding Claim 14, according to Yahiro Figs. 1-12 and claim 1, alignment marks 51 and 301 have different shapes since alignment marks 301 have a rectangular shape.

Regarding Claim 15 and 17, according to Yahiro Figs. 1-12 and claim 1, mask making member is a transmission mask-making member.

Regarding Claims 16, according to Yahiro Figs. 1-12 and claim 1, mask making member is a stencil mask making member.

Regarding Claim 17, according to Yahiro Figs. 1-12 and claim 4, first and second alignment marks are formed on an electron scatterer formed on a membrane.

Regarding Claim 18, according to Yahiro Figs. 1-12 and claim 4, first and second alignment marks are formed on an electron scatterer formed on a membrane by selectively removing the electron scatterer.

Art Unit: 2826

Regarding Claim 19, according to Yahiro Figs. 1-12 and claim 5, first and second alignment marks are formed on a mask board.

Regarding Claim 20, according to Yahiro Figs. 1-12 and claim 5, first and second alignment marks are formed on a mask board by selectively removing the mask board.

Regarding Claim 21, according to Yahiro Figs. 1-12 and claim 5, first and second alignment marks are formed on a mask board by selectively removing the mask board to form holes and grooves in the mask board and burying the holes in the mask board and burying the holes or grooves with a metal whose atoms have atomic weights heavier than those of atoms of mask board.

Regarding Claim 22, according to Yahiro Figs. 1-12 and claim 10, the metal is platinum, gold, silver, tungsten, tantalum or molybdenum.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fazli Erdem whose telephone number is (571) 272-1914. The examiner can normally be reached on M - F 8:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (571) 272-1915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2826

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NATHAN J. FLYNN  
SUPERVISORY PATENT EXAMINER  
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April 2, 2006